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ABSTRACT

This descriptive, longitudinal study investigated the emergent literacy skills of 45 children 4 and 5 years of age who were enrolled in an enrichment program for the gifted and talented. In two 10-week sessions conducted in subsequent years, children were requested to write a story and then read it aloud. Of central interest were four questions: (1) What forms of writing and reading were used? (2) What is the relationship between the writing systems chosen by a child and the form of the child's rereading? (3) What differences are observed in the writing and rereading of academically able children? (4) What is the effect of task-related variables on the child's writing? Over a 2-year period, 329 stories were collected. Stories were analyzed using Sulzby's (1985) scheme for classifying the forms of writing and rereading from writing used by young children, and reanalyzed using modifications of that scheme. Considerable variability was found in the use of forms of writing and rereading among subjects, both within successive stories by the same child and between children. Higher levels of writing were not always accompanied by apparently higher levels of rereading. Age differences were noted in children's use of writing and rereading systems. More 5-year-olds used specific higher levels of writing and rereading than did 4-year-olds. Requesting children to write everything they could write resulted in more letter-based writing than did the request to write a story. (Author/RH)

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Emergent Writing and Rereading by Young Children Identified as "Academically Able"

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ABSTRACT

Emergent Writing and Rereading by Young Children Identified as "Academically Able"

This study focuses the emergent literacy skills of 45 four- and five-year-olds enrolled in a program for "academically able" (i.e. gifted and talented) young children. The study was designed to answer these questions: (1) What forms of writing and reading were used? (2) What is the relationship between the writing systems chosen by a child and the form of the child's rereading? (3) What differences are observed in the writing and rereading of academically able four- and five-year-olds? (4) What is the effect of task-related variables upon the child's writing?

Children were requested to write a story and then read it to the first author. Over a two-year period, a total of 329 stories were collected. There was considerable variability in the use of forms of writing and rereading among this sample, both within successive stories by the same child and between children. Higher levels of writing were not always accompanied by higher-appearing levels of rereading.

Age differences were noted in children's use of writing and rereading systems. More five year olds used specific higher levels of writing and rereading than did four year olds. Requesting the children to write everything they could write resulted in more letter-based writing than did the request to write a story.

> Once upon a time a little boy and his dog were sailing away in this beautiful boat. Then they came to an ice cream store and had ice cream, very tall ice cream and they had lots of cookies. So, he went back to his real home. The end.

Laura's (age 4-2) story is one of over 300 stories we collected over a two-year period from 45 young children enrolled in a Saturday enrichment program for academically able children.

We were interested in this population for several reasons. While research has focused on the emergent reading ability of children of different income levels (Teale, 1986; Anderson & Stokes, 1984) and on early or precocious readers (Durkin, 1966; Jackson, 1988), young children of high academic ability had not yet been studied with respect to their emergent literacy knowledge.

The current interest in gifted education has resulted in increasing numbers of programs, both private and public; however research has rarely focused on the <u>developing</u> gifted child. Robinson (1987) comments that much of the research on very young precocious children is severely limited due to its retrospective and highly selective nature. She calls for investigations to examine children while they are developing, not after they have achieved unusual goals. The preschool time is when individual differences (the initial indications of giftedness) may appear.

Kitano (1985) conducted a naturalistic study of young children enrolled in a gifted preschool. She studied a wide range of classroom behaviors and concluded that many of the children's behaviors were similar to unselected (i.e. average)

children. However, gifted preschool children frequently demonstrated advanced knowledge, thinking abilities, and creativity. Eventhough the children shared many common characteristics, many individual differences were also found.

While early identification of gifted children is often accompanied by controversy regarding stability and reliability of identification (Robinson, 1987; Congdon, 1985), the sample with whom we were working were screened with sufficient care and discretion that we feel confident they represent children with a substantial amount of general knowledge, who would tend to be identified by school systems in the later grades as highly promising or gifted. Techniques used to select children for the program were similar to those used in other research identifying gifted preschool children (Kitano, 1985; Robinson, 1987).

Enrollment was by invitation based on three performance measures and a parent questionnaire. Thus, the children were relatively homogeneous in academic abilities. The parents of these children were also similar in their valuing of education and enrichment for their children as evidenced by their seeking enrollment for their children in this weekend enrichment program. The purpose of our study was to describe ways in which these academically-able four-and five-year-old children use writing and reading systems in creating stories.

In recent years, researchers (Clay, 1975; Ferreiro & Teberosky, 1982; Sulzby, 1983) have begun to study the preconventional writing systems used by young children. These systems

include drawings, scribble, nonphonetic letter strings, phonetic (or invented) spelling, copying environmental print, conventional orthography and a few more idiosyncratic forms. Writing systems are identified not only by their surface, graphic appearances but also by the compositional (Dyson, 1985; Sulzby, 1985) and rereading (Sulzby, 1985; Sulzby, Barnhart & Hieshima, 1989; Sulzby & Teale, 1985) behaviors that accompany them. Within academically heterogeneous populations, children may "read" their stories in an oral monologue fashion; others use reading-like intonation. Some children read aspectually, focusing on one or more reading strategies, i.e. letter-sound relationships, known words, comprehension.

Sulzby and Teale (1985) caution that while the developmental path appears to go from lower-appearing writing systems such as scribbling, drawing, and letter-like forms to the later-appearing forms like letter strings and phonetically-based invented spelling to conventional print, the specific path taken varies between children. Further, children may hold a number of hypotheses in their "working knowledge" and select from that number a system to use with each opportunity to engage in reading and/or writing (Sulzby, 1985, in press). Vukelich and Golden (1984) describe the writing of a young girl, Tessa, who when producing five samples of writing in a single writing session (on separate pages, and after each indicating she was "done"), used a variety of writing systems across the five samples.

In our study of academically able four- and five-year-olds we wanted to see if their emergent reading and writing behaviors were similar to, or different from those described when more

heterogenous populations have been studied. In addition to studying a previously ignored population this study focuses on how children write stories and the speech with which they read. Previous research has often focused on children's early writing in general, (Coe, 1987; Clay, 1975; DeFord, 1980; Rowe, 1988) letting the child spontaneously decide the purpose or function of the writing, as well as focusing on writing and reading in separate research tasks (Nurss, 1987). In our study we specifically asked children to write a story and then to read it to us.

This descriptive, longitudinal study involves two cohorts of four- and five-year-old children. Data was collected throughout two, ten-week sessions in subsequent years. The second set of data was collected to determine if the findings from Year 1 would be confirmed. Our analysis centered on these questions:

1. What forms of writing and reading were used by these academically-able children?

2. What is the relationship between the writing systems chosen by a child and the form of the child's rereading?

3. What differences are observed in the writing and rereading of four- and five-year-old children?

4. What is the effect of task-related variables upon the child's writing?

METHOD

Subjects

Participants in the study were young children enrolled in the Saturday Academic Enrichment Program sponsored by the Center

for Talent Development at Northwestern University. In Year 1, 23 children participated in the study and in Year 2, 22 children participated (total = 45). The median age of the four year olds in Year 1 (n=14) was 4 years 6 months (range 4-0 to 4-10). The median age of the five year olds in Year 1 (n=9) was 5 years 1 month (range 5-0 to 5-10). In year 2, the median age for the four year olds (n=12) was 4 years 7 months, (range 4-1 to 4-9) and for the five year olds (n=10), 5 years 3 months (range 5-0 to 5-10). Approximately 25% of the children in each cohort came from Iranian, Russian, East Indian, German, Argentinean, Oriental, Hispanic, African-American, or Greek families.

Children were invited to participate in the Preschool Enrichment Class based on their performance on the Peabody Individual Achievement Test (PIAT), the Raven's Matrices Test, and a variation of the Draw-a-Person test. Background information was collected through a parent questionnaire, which asked parents to describe their child's interests, activities, and ways of interacting in his/her environment. Some of the items were related to reading and writing, e.g. "Makes up stories and has ideas that are unique." Children's scores on the PIAT reading recognition subtest ranged from the 81st to the 99th percentile at the kindergarten level.

Children attended an average of 7 out of the eight sessions of data collection in Year 1 and eight out of the ten sessions in Year 2. Only one child remained in the sample for both cohorts.

Setting

The Preschool Enrichment Class was held each Saturday for 10 consecutive weeks for both cohorts during winter. Each cohort

had two teachers who shared teaching responsibilities. Both of the teachers had completed graduate degrees in education and were experienced classroom teachers. Class sessions were two hours in length, with writing, math, social studies, and movement content areas. The students were divided into two groups and rotated between the content areas. The writing segment was approximately 25 minutes in length. One teacher assumed responsibility for teaching the writing class.

Materials

Children either brought or were provided writing utensils: felt-tip markers, pencils, crayons, colored pencils. The paper provided was varied by session. In year 1 we initially used plain, white, 8 1/2 x 11 inch paper. In two of the data collections in Year 1, and throughout Year 2, children were given blank books to use. These "books" were made of one sheet of colored construction paper and two sheets of plain paper, folded in half and stapled near the folded edge, resulting in eight "pages" with a cover. In two collections in Year 2, ruled paper was inserted into the books instead of plain paper.

Procedures

Prior to the initial data collection for each cohort, the teacher discussed how young children write stories, following the method of Sulzby (1989). For each of the two years, she elicited or modelled the following forms of writing: drawing, letter strings, invented spelling, and conventional spelling, Scribbling was modelled for the first cohort but not for the

second. No modelling occurred in subsequent sessions. Storybook reading (read by teacher to entire group of children) always preceded writing.

Data were collected throughout the Winter sessions in 1986 and 1987. The elicitation was worded in a simple fashion: "Write a story any way you want." When the children were finished, they were asked to reread their stories individually, to the first author, with this prompt: "Read me your story." The rereadings were audiotaped.

Certain aspects of data collection in Year 2 were varied to probe for the effects of the classroom context upon the children's choice of writing systems. In eight of the ten sessions, blank books with unlined paper were used and children were asked to "write a story any way you want to." For the sixth session, children were given blank books that contained ruled, primary paper. In the seventh week, children were again given blank books with ruled paper, and were asked to "write everything you can write."

Analysis

Stories were transcribed from audiotapes by the first author who has had extensive training in transcription of child language data; the second author rechecked a subset of the transcripts and found a high degree of accuracy of transcription for the level of analysis.

Stories were individually analyzed using Sulzby's (1985) scheme for classifying the forms of writing and rereading from writing used by young children, and reanalyzed using modifications of that scheme (see Sulzby, Barnhart & Hieshima,

1989; Sulzby, 1990). All data were classified by the first author and a subset was independently classified by the second author. Agreement was 93% for judgments of writing systems and 100% for reading system judgments.

RESULTS AND DISCUSSION

All of the children wrote stories in the classroom setting for all of the days they were present. They acted as if the writing and re-reading requests made sense. There were very few refusals to read (Year 1: 10 refusals/153 total stories; Year 2: 2 refusals/159 stories), and most of these were "high level" refusals, or refusals to read in which the child explained a metacognitive level of awareness about what is required for print to be read, e.g. "I don't know the words." "It's just a picture book." Of the ten refusals in Year 1, seven were high level refusals; both of the refusals in Year 2 were high level. From this collection of stories, we had sufficient data to begin to address the primary research questions.

What Forms of Writing and Reading Were Used?

First we will examine the forms of writing and rereading used by these children. Children used a variety of writing systems (See Table 1) and used more than one writing system for most compositions (312 stories with 483 writing system codings), again similar to the findings of other studies (Sulzby, Barnhart & Hieshima, 1989).

Insert Table 1 about here

In both cohorts, drawing was used with a high percentage of the stories. However, drawing was more predominate in Year Two (118/153 stories or 77% in Year 1 vs 156/159 stories or 96% in Year 2). There was more scribble (scribble-wavy and scribble letter-like) in Year One (32/153 stories or 21%) than in Year Two (6/156 stories or 4%). This could have been influenced by the fact that scribbling was modelled in Year One but not in Year Two. The greatest difference was between the three subcategories of letterstrings (random, patterned, name elements) 40.6% in Year One in contrast with 19% in Year Two. The rate of all forms of invented spelling was relatively low, 8.6% and 12%, which is consistent with other studies.

The greatest differences between the two years can be summarized thus: when using letters, children in Year One favored nonphonetic forms more than did children in Year Two; children in Year Two showed a slightly greater preference for phonetic forms than did children in Year One. Drawing was used even more frequently in Year Two.

Writing was coded by a system that included all forms of writing that children used for a given story; that is, a child might have used four or five systems, such as drawing, scribble, random letter strings, patterned letter strings, and conventional spelling. Rereading, on the other hand, was coded exclusively; that is, a child was judged to have used only one rereading system per story. The only exception to this was when a child refused to read initially but responded to subsequent prompts with a rereading. Table 2 summarizes the rereadings for each of the two years.

Insert Table 2 about here

Table 2 supports a slight tendency toward higher level behaviors from the children in Year Two in the category of reading aspectually/strategically (7/153 stories or 5% in Year 1 vs 19/159 stories or 12% in Year 2). More stories in both years were read in written monologue fashion than in oral monologue fashion. The use of written monologue as a rereading system indicates an awareness of the structure and rhythm of written text, not present in oral monologue.

The differences found between the two cohorts serves as a caution in making generalizations based on only one set of data. Eventhough the children in the two cohorts were similar in their academic abilities and were part of the same study, differences were noted in their use of writing and reading systems. The differences may also indicate the presence of many individual, unique patterns of literacy acquisition (See section on age differences later in paper.)

What is the relationship between writing systems and rereading systems?

The second question involves the relationship between the writing systems and the rereading systems. Since the forms of writing are not hierarchically organized, we cannot simply order them and correlate them with the more hierarchical forms of rereading. Indeed, our research (Sulzby, 1985; Sulzby, Barnhart & Hieshima, 1989) and that of others (Vukelich & Golden, 1984; Allen, 1989) indicates that children continue to use forms such

as scribble, drawing, and letter strings even during the period when they are acquiring forms such as invented spelling. In the analysis that follows, we first show the range and frequency of forms of writing that accompanied each form of rereading. For ease of display and understanding, we have collapsed all sub-categories. Two kinds of scribble become just scribble; three levels of invented spelling become just invented spelling, etc. Copying environmental print was dropped as a category because there were no examples.

Analysis of the range of writing systems accompanying each rereading level found considerable variation. (See Table 3)

Insert Table 3 about here

Several writing systems or combinations thereof were used at each level of rereading. While the rereading behaviors were similar, e.g. oral monologue, the children used a variety of writing systems in creating their "text" on paper. Such variation may indicate the children were actively involved in "hypothesis testing" in their quest to figure out the relationship between speech and print.

For example, the children used 15 different writing systems/combinations for their written monologues. From the data presented in Table 3, we then tallied the number of different writing system combinations used by individual children across all reading systems and found 23 different writing systems/combinations were used. While these writing systems/combinations may

not be representative of more than one child, the children's use of so many different combinations provides evidence that the use of writing systems is characterized by variability, and individual, unique ways in which the various writing systems were used in creating a story.

Laura's (age 4-2) story, the text of which begins this paper, was created with drawing and patterned letters (See Figure 1), and read in written monologue fashion. Nicole (Age 5-0) also read in written monologue fashion; however she used more writing systems (See Figure 2). In addition to drawing and patterned letters, Nicole used random letters and conventional print.

In four rereading levels (labelling/description, oral monologue, written monologue, and oral-written mix), drawing and drawing with letters were used more frequently. Of the nine combinations of writing systems used when children read aspectually/strategically (See Table 3), seven combinations included drawing. Scribbling was not used in any story read aspectually/strategically. When stories were read conventionally, drawing was sometimes present; however, scribble or letterstrings were not used. The only form of invented spelling used when stories were read conventionally was full invented spelling.

That such different rereadings could occur from the same writing systems may indicate the child's attempts at negotiating and testing the relationships between oral and written language; and between the various ways of graphically representing a story on paper. This finding of unique variations also underscores the importance of studying children's writing in relation to their

rereading of that writing. Different levels of literacy-related knowledge are indicated by the child who uses drawing and letters with written monologue and the child who uses drawing and letters with labeling/description. Children's use of similar writing systems does not automatically indicate similar knowledge of the reading process.

What differences are observed in the writing and rereading of four- and five-year-old children who have been identified as academically able?

The third question concerns the developmental path or paths along which these children, who have been identified as academically able, move toward becoming conventional writers. We certainly do not feel that we have sufficient data to completely answer this question, but we do have some helpful contributions. We were able to partition our children into age groups (four-year-olds and five-year-olds) in order to take a cross-sectional look at development.

Our first analysis involved looking at individual children's stories across time for evidence of development from using lower appearing writing systems such as drawing or random letters to invented spelling and then to conventional orthography. No child's writing showed such a pattern. Some children in both age groups (five, four-year-olds and six, five-year-olds) ranged from using lower writing systems one week, then used invented spelling alone or in conjunction with other systems another week, and then in one or more subsequent weeks returned to drawing and/or scribble and/or letterstrings.

Stories that accompanied drawings and lower-appearing forms of writing were generally longer in length and had more complex language than did stories using invented spelling and/or conventional print.

For example, Ariel (age 4-7) used drawing and wavy scribble and "read" this story:

> Once I have friends, and my friends loved me, but when I was all alone in my house, not even my parents, and not even my friends, when I stood before my eyes I saw twinkling in the twilight, I saw a beautiful handsome prince. He had a wife named, uh, Clara, but the wife named Clara was, was usually as other Claras, but now this Clara was, um, turned out to be Ariel's best friend. Then Clara and Ariel watched TV. Um, Wait, that's the end. (Points to wavy scribbling on the last page, a page with no drawing).

Throughout the winter session Ariel used drawing and wavy scribble for six of her seven stories (her initial story used only drawing). Her stories ranged between 13 and 137 words in length (M=60).

Gaurav (Age 5-5) read two of his stories aspectually/strategically and incorporated invented spelling and/or conventional print in each story (See example in Figure 3). Drawing also was used in each story. The text of each of Gaurav's stories was only one sentence in length, (7 and 9 words, respectively).

Children who attemped to encode their story conventionally often created a shorter, simpler text as a result of the time and

cognitive effort required to put their text on paper. One child, Ashley (age 4-6), spent 15-20 minutes (of the 25 minute class period) attempting to encode the word "illustrator" for the cover of her storybook. Patient, on-task, and reflective Ashley made a good attempt in successfully encoding the word; however, as a result, she did not have time (or energy) to compose and then read her story. Although Ashley was engaged in the complex process of encoding, her product (a partially finished storybook cover) did not represent her high level of involvement in the process. If you only saw her storybook cover and did not see her composing, you might assume she was on-task very little, and not interested in writing a story.

Although no strong developmental patterns were found for the children, it may be that they were moving toward more conventional forms, and that the 10-week sequence of data collection may have been too short to capture sustained growth. Cross-sectional data helped to clarify the developmental issue.

Our next analysis focused on the use of specific writing and reading systems by four-year-olds and five-year-olds. The number and percentage of children using the respective writing and reading systems is given in Tables 4 and 5.

Insert Tables 4 and 5 about here

The following differences were found:

1. Four-year-olds used random letters (14/26 children or 54%) and patterned letters (15/26 children or 58%) more than did

five-year-olds (5/26 children or 5% and 7/37 children or 7% respectively).

2. Five-year-olds used more invented spelling (all three forms) than did four-year-olds.

3. Five-year-olds also incorporated their own names into their stories more than did four-year-olds.

4. A higher percentage of five-year-olds read with written monologue than did four year olds.

5. More four-year-olds read with "oral-written mix" than did five-year-olds.

6. More five year olds read using "aspectual/strategic" than four-year-olds.

Based on these findings it appears that four-year-olds were more likely to use specific lower-appearing writing and rereading systems, e.g. random letters and patterned letters, oral-written mix monologue. Five-year-olds used higher levels of writing and rereading, i.e. writing with intermediate or full invented spelling, and rereading using written monologue or aspectual/ strategic reading. These systems used by five-year-olds involve more attention to print in both the encoding and decoding aspects of the writing and reading process.

For both age groups, similar usage levels of conventional print and conventional reading were found; however, we cannot conclude that no age differences exist in how these two systems were used.

In order to answer that question more fully we will need to study further how conventional print was used and when

conventional rereading occurred, i.e. Was conventional print incorporated into a coherent story? Was conventional print embedded in letter strings? Did conventional print appear as single words to label the action of the accompanying drawing? Are the answers to these questions different for children of different ages? Since relatively few children in our study used conventional print, additional data is needed to answer these questions.

In summary, more five-year-olds used specific higher levels of writing and rereading than did four-year-olds, although no strong developmental path was found between lower and higher levels in writing or rereading. Children appeared to be actively experimenting with a wide variety of writing and reading systems. Children used multiple forms of writing and continued to use multiple forms over time, even though they may have been moving toward more conventional forms.

What is the effect of task-related variables upon the child's writing?

Our fourth question concerned the effect of task-related variables upon the children's writing. Even though the children wrote in their classroom, by emergent literacy standards, their parents often expressed a disappointment or lack of satisfaction with children using drawing or other such forms for writing and said that the children "wrote more" or "used letters more" at home. Also we were concerned about other task-related variables, such as the writing task given to the children (story v. inventory task) or format (kind of writing paper given to the children).

In the section that follows we discuss the results of introducing lined paper and requesting children to "write everything they could write."

In the sixth session of Year 2, the lined (primary) paper appeared in the books with no explicit direction given to the children. We wanted to see if the presence of lined paper alone would elicit more letter-based writing. It did not. (See Table 6) Children continued to draw on the lined paper, disregarding the lines. Because we knew that there is a tendency for children to write with letters in response to an inventory request, we shifted to that topic format. In the seventh session we used lined paper in the blank storybooks again, and directed the children to "Write everything you can write". There was a marked increase in the use of letter-based writing systems, i.e. patterned letters, own name, intermediate and full invented spelling, conventional print, alphabet segment, as well as a decrease in the use of drawing (94% in 6th session v 24% in 7th session). In the inventory task, no children used scribble writing or letter-like units. (See Table 6). For Table 6 we used a matched subsample; i.e. the same children were present for Sessions 6 and 7.

Insert Table 6 about here

In Session 7 when children were asked to "write everything you can write", only a few children wrote stories. Instead they created an inventory of what they could write. Many children

wrote an alphabet segment or the whole alphabet. Others wrote names of family members. Simple three-to-four letter words were also written, e.g. cat, dog, love.

In the subsequent weeks (Sessions 8, 9, 10), unlined paper was used and there was a return to the use of drawing and scribble-based writing systems used prior to the sessions with lined paper and the inventory task.

This inventory task indicated to us that these children could write some conventional print and had a knowledge of the letters in the alphabet; however, when asked to create a story, (Sessions 1-6, 8-10) these children opted for other writing systems to communicate their message, similar to findings for kindergarten children reported by Sulzby, Barnhart and Hieshima (1989).

In summary, one task-related variable manipulated during data collection appeared to have an effect on children's use of writing and rereading systems, i.e. story v. inventory task. Requesting that children "write everything you can write" resulted in more letter-based writing. The introduction of a format variation (i.e. lined paper) itself had no effect on the use of writing systems. The manipulation of the context of data collection in the above ways added to our awareness that children's emergent literacy abilities are more complex than simple and are not easily generalized. Future research designed to study young children's developing literacy skills needs to explore these complexities carefully and use caution in eliciting and interpreting the written products children create.

CONCLUSIONS

There was considerable variability in the use of forms of writing and rereading among these young academically able children, both within successive stories by the same child and between children. Drawing was used as a writing system between 77% and 96% of the stories for the two cohorts. All other writing systems showed no strong pattern of use across cohorts. Children used a variety of writing and rereading systems across stories, and often used more than one writing system in each story. Higher levels of rereading were not always accompanied by higher appearing levels of writing, i.e. drawing, and drawing & letters were the most frequently used systems of writing at four rereading levels.

Analysis of the stories by age groups indicated some differences between four-year-olds and five-year-olds in the use of writing and rereading systems. More five-year-olds used specific higher levels of writing and rereading than did four-year-olds. The developmental picture for these academically able children shows similarities with unidentified (typical classroom enrollment) samples (Sulzby, Barnhart & Hieshima, 1989). While no specific developmental path was identified, the academically able children did not use writing/reading systems randomly. They appeared to be actively involved in exploring the full range of writing and rereading systems, gradually moving toward conventional writing and rereading. Children in our sample seemed to have a strong idea of the text they wanted to create and chose from their repertorie of writing systems when

creating the text. For example, spontaneous metalinguistic comments provided clues that some children were aware of their decisions to use various writing systems, e.g. One child indicated her story was "an alphabet book", and read "H is for Hawaiian."

Task-related variables appeared to influence the children's use of writing systems. Story creation elicited different writing systems than did a "write everything you can write" task. Lined paper alone had no effect.

Our initial purpose in choosing a sample of academically able young children was to examine their use of writing and rereading systems to see how they compared to typical classroom (academically heterogeneous) samples. Our overall conclusion is that these young academically able children show similar developmental patterns in using forms of writing and rereading to other young children of similar chronological age. Because no comparable studies were found that focused on a group of four-year-olds, our results were compared with data for five-year-olds. Although there is only one year difference between four- and five-year olds, it is an important year for emerging literacy knowledge. Thus, more comparable data on emergent reading and writing of stories by other four-year-olds is necessary to determine how this segment of our sample compares to children of the same chronological age.

Comparative data is also needed to further explain the high degree of unique patterns in which writing systems were combined and used as well as the patterns over time in which different reading systems were used by young children when rereading their

stories. Longitudinal data from a study of the same children over a two-year period would provide additional insights.

In this paper we have only examined the categories of writing and rereading. More remains to be done. Much of our analysis focused on the categories of writing and rereading represented in the children's stories. While the rereading categories (e.g. label-description, oral monologue, written monologue) indicate a basic compositional structure to the "story", differences between this academically able sample and an academically heterogenous sample may be found in more qualitative analysis. Further examination of these children's stories for structural and cohesive features may provide us with a clearer picture of the emergent literacy skills of academically able young children.

FOOTNOTES

1. The authors wish to thank the Center for Talent Development at Northwestern University, Evanston, Illinois, and its directors, Dr. Joyce VanTassel-Baska and Dr. Paula Olszewski for the support and cooperation we received in conducting the study. To the children who attended the Saturday Enrichment Program we extend our deepest appreciation for sharing with us their stories and insights on learning to read and write.

2. The one child remaining in the study for both years showed growth from using labeling/description, oral monologue, written monologue, and oral-written mix in Year 1 towards consistently using written monologue in year 2, and once reading conventionally.

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	Drawing	Scribble-Wavy	Scribble-Letterlike	Letterlike Units	Letters-Random	Letters-Patterned	Letters-Name Elements	Own Name	Invented Sp.-Syllabic	Inv. Sp.-Intermediate	Inv. Sp.-Full	Conventional	Alphabetic Sequence
Year 1 (153 stories)	118	26	6	2	30	30	1	4	1	5	8	13	2
%	77	17	4	1	20	20	.6	3	.6	3	5	8	1
Year 2 (159 stories)	156	6	0	5	10	16	3	4	4	4	10	18	1
%	98	4	-	3	7	10	2	3	3	3	6	11	.6

Table 1: Forms of Writing Used in Total Collection* of Children's Stories

(* Data from Year 2 Inventory Task-Session 6 not included)

	Refusal	"I didn't write"	Labelling/Description	Oral Monologue	Oral-Written Mix	Written Monologue	Naming Letters	Aspectual/Strategic	Conventional
Year 1 (153 stories)	3	7	21	23	21	70	1	7	4
%	2	5	14	15	14	46	.6	5	3
Year 2 (159 stories)	0	2	31	37	14	54	0	19	4
%	-	1	19	23	9	34	-	12	3

Table 2: Forms of Rereading Used in Total Collection* of Children's Stories

(*Data from Year 2 Inventory Task-Session 6 not included)

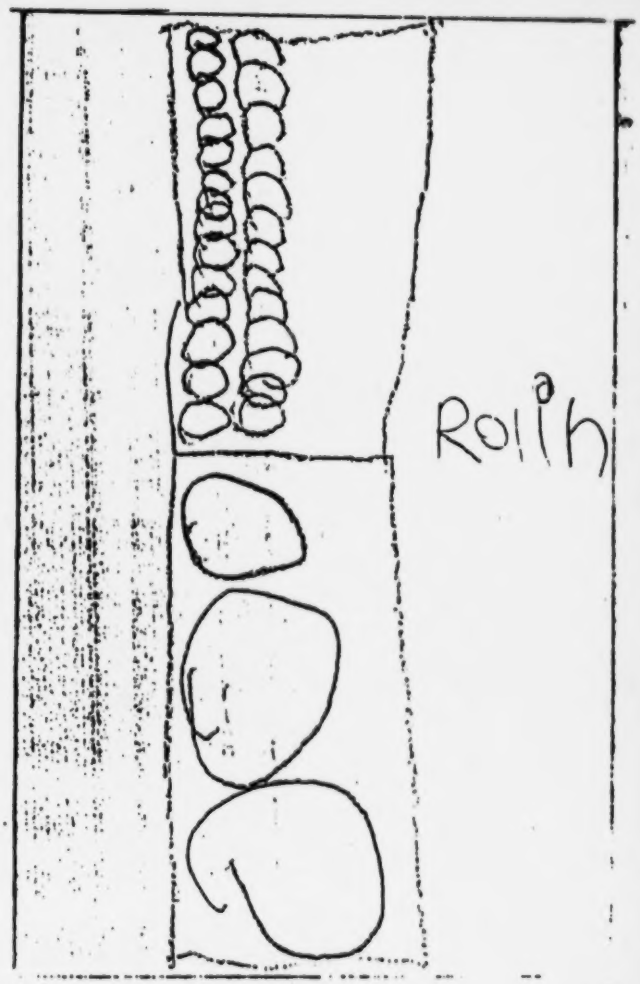
Table 3

Writing Systems Used by Children and Reading Levels Observed

Rereading level	Number of Children Year 1	Year 2
Labelling/description		
Drawing	5	7
Drawing, scribble	1	0
Drawing, letters	3	4
Drawing, conventional print	1	2
Scribble	1	0
Letters	2	0
Oral monologue		
Drawing	8	12
Drawing, letters	4	4
Drawing, letters, conv. print	0	1
Drawing, conventional print	1	1
Scribble	2	0
Written monologue		
Drawing	10	10
Drawing, scribble	4	1
Drawing, letters	6	3
Drawing, scribble, letters	1	0
Drawing, letters, conv print	2	0
Drawing, letters, invented spelling, name	1	0
Drawing, invented spelling	1	1
Drawing, invented spelling, conventional print	0	1
Drawing, conventional print	0	1
Scribble	5	0
Letters	4	0
Alphabetic sequence	1	0
Invented spelling	0	1
Letters, invented spelling, conventional print	1	0
Letters, conventional print, name	1	0
Oral-written mix		
Drawing	8	5
Drawing, letters	3	3
Drawing, scribble, letters	1	0
Drawing, letters, name	1	0
Drawing, name	0	1
Drawing, letters, invented spelling, conventional print	1	0

Table 3 continued

	Year 1	Year 2
Drawing, invented spelling, conventional print	0	1
Drawing, conventional print	0	1
Scribble	1	0
Letters	1	0
Aspectual-strategic		
Drawing, letters	2	3
Drawing, invented spelling	0	1
Drawing, letters, invented spelling	1	1
Drawing, letters, conventional print	1	1
Drawing, invented spelling, conventional print	0	1
Drawing, conventional print	0	1
Drawing, letters, invented spelling, conventional print	0	1
Invented spelling	2	0
Invented spelling, conventional print	0	1
Conventional		
Drawing, name, conventional print	0	1
Drawing, conventional print	0	1
Full invented spelling, conventional print	2	1
Conventional print	2	0



Laura's reading:

Once upon a time a little boy and his dog were sailing away in this beautiful boat. Then they came to an ice cream store and had ice cream, very tall ice cream and they had lots of cookies. So, he went back to his real home.

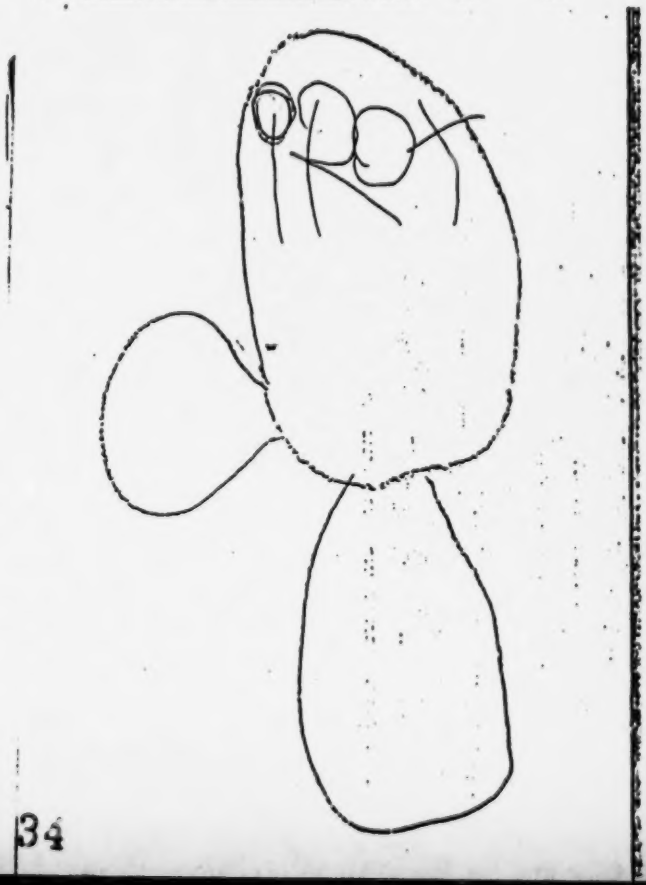
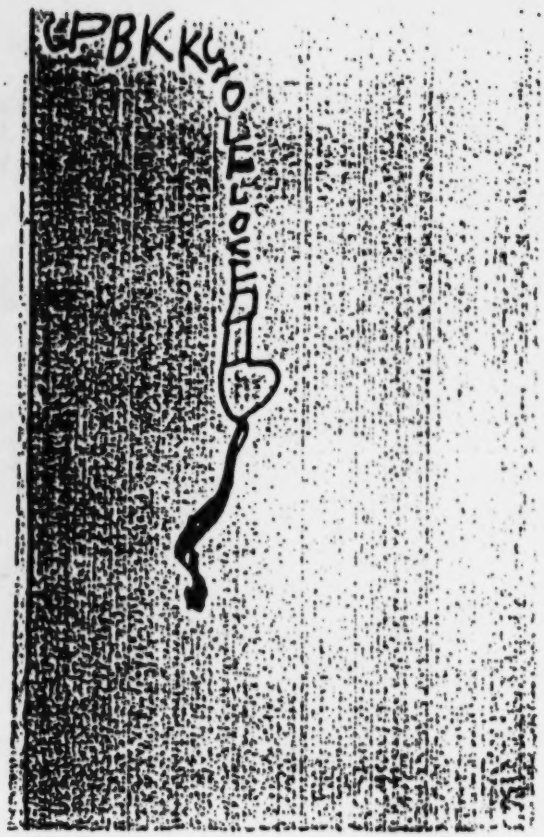


Figure 1: Laura's story.



Nicole's reading (word by word with reading intonation):

The story of going down to a museum. A museum has so many words. It has some dinosaurs. It shows some moons of Jupiter (laughs). Jupiter was the big one, the biggest of all. I knew, because of school and because the museum told me. Don't you know that museums can tell you stuff? (aside) That's the end. And the rest of the pages are all blank.

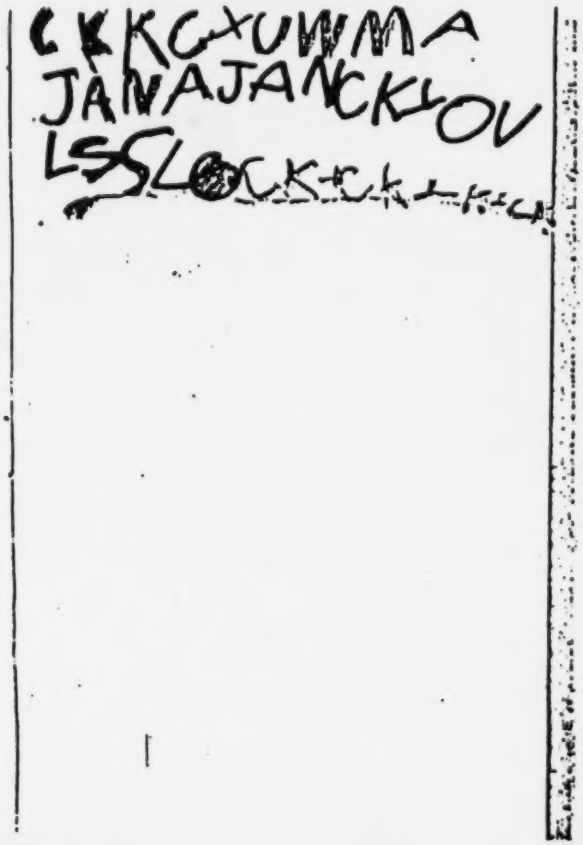
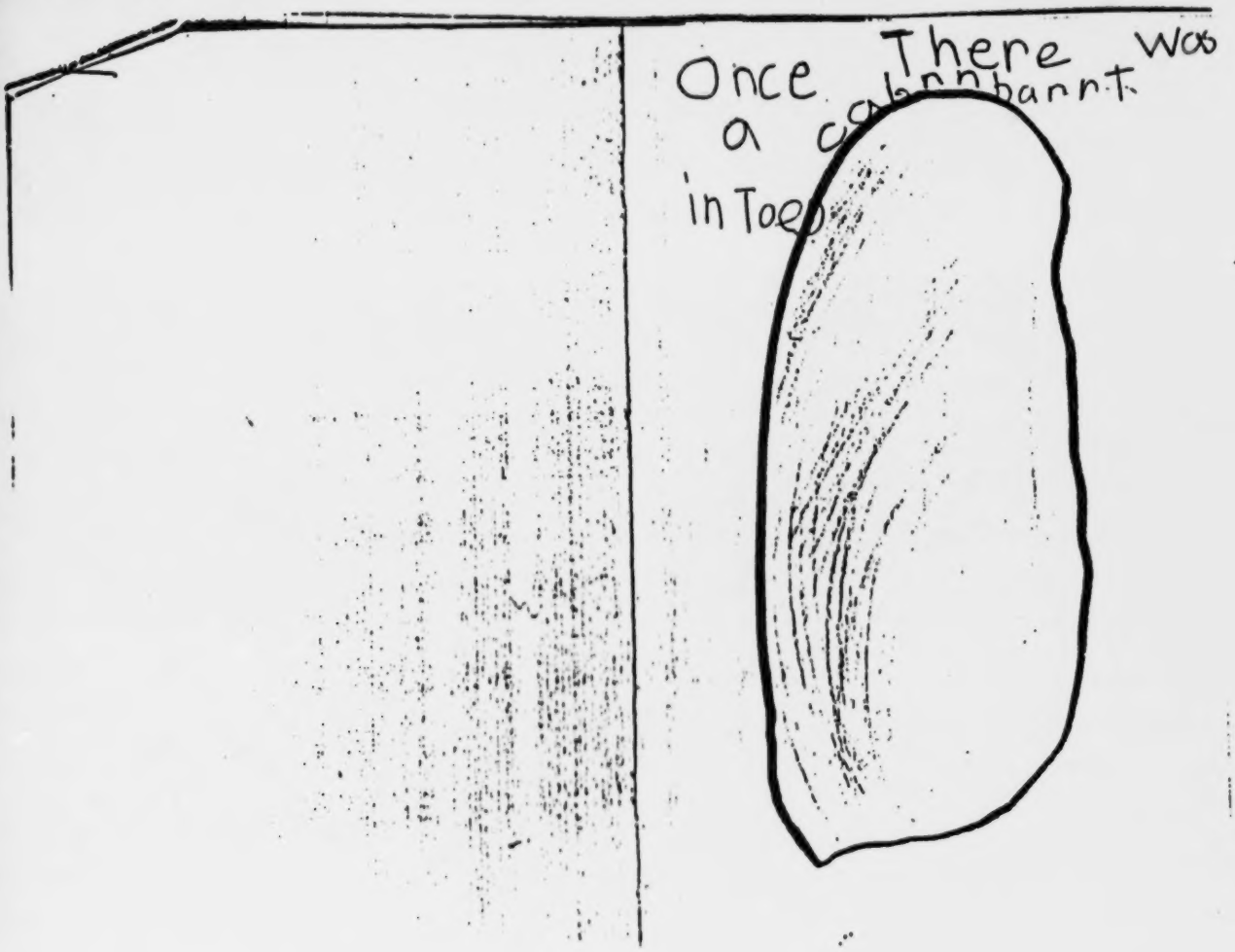


Figure 2: Nicole's story.



Gaurav's reading (word by word, reading intonation):

Once the, once there was a cucumber in town.

Figure 3: Gaurav's story.

	Drawing	Scribble-Wavy	Scribble-Letterlike	Letterlike Units	Letters-Random	Letters-Patterned	Letters-Name Elements	Own Name	Invented Sp.-Syllabic	Inv. Sp.-Intermediate	Inv. Sp.-Full	Conventional	Alphabetic Sequence
Four-year-olds (n=26)	26	5	1	4	14	15	1	3	2	3	4	11	6
%	100	19	3	15	54	58	4	12	8	12	15	42	23
Five-year-olds (n=19)	18	3	1	3	5	7	1	8	3	6	8	9	5
%	95	16	5	16	26	37	5	42	16	32	42	47	26

Table 4: Forms of Writing Used by Four- and Five-Year-Olds*

(*All systems used by individual children one time (or more) are represented in the tally. This does not reflect a child's multiple use of the same system.)

	Refusal	"I didn't write"	Labelling/Description	Oral Monologue	Oral-Written Mix	Written Monologue	Naming Letters	Aspectual/Strategic	Conventional
Four-year-olds (n=26)	3	3	10	16	13	17	1	4	9
%	12	12	38	61	50	65	4	15	35
Five-year-olds (n=19)	0	3	7	11	7	14	0	7	6
%	-	16	37	57	37	74	-	37	32

Table 5: Forms of Rereading Used by Four- and Five-Year Olds*

(*All forms used by individual children one or more times. Table does not reflect a child's multiple use of the same form.).

	Drawing	Scribble-Wavy	Scribble-Letterlike	Letterlike Units	Letters-Random	Letters-Patterned	Letters-Name Elements	Own Name	Invented Sp.-Syllabic	Inv. Sp.-Intermediate	Inv. Sp.-Full	Conventional	Alphabetic Sequence
Total for plain paper stories (140 stories)	138	6	0	5	9	15	3	3	3	3	7	6	1
%	99	4	-	3	6	11	2	2	2	2	5	11	.7
Session 6: Lined paper story task (n=17)*	16	1	0	0	1	1	0	0	1	1	2	2	1
%	94	6	-	-	6	6	-	-	6	6	12	12	6
Session 7: Lined paper inventory task (n=17)	4	0	0	0	1	2	0	6	0	2	3	7	8
%	24	-	-	-	6	12	-	35	-	12	18	41	47

Table 6: Comparison of Writing Systems Used with Plain Paper and Two Lined Paper Sessions in Year 2.

(*Matched sample for Sessions 6 and 7.)